



UCC board in conference



Spouses get overview of ORGDP

UCC board of directors meet in area

For the first time in its history, the board of directors of Union Carbide Corporation met in this area. Their meeting was held at the Hyatt Regency in Knoxville Tuesday, September 25. The following day the board toured selected facilities in the three Oak Ridge plants.

Attending were: William S. Sneath, chairman of the board and chief executive officer; Warren M. Anderson, president and chief operating officer; and Douglas H. Freeman, executive vice-president. Other directors attending were R. Manning Brown, chairman of New York Life Insurance Company; Roberto de Jesus Toro, president of Banco de Ponce; James L. Ferguson, chairman and chief executive officer of General Foods Corporation; James M. Hester, rector of the United Nations University; Jerome H. Holland, director of various corporations; Jack B. Jackson, retired president of J. C. Penney Company, Inc.; Horace C. Jones, chairman, executive-finance committee of Burlington Industries, Inc.; Ian D. Sinclair, chairman and chief executive officer of Canadian Pacific Limited; Russell E. Train, president, World Wildlife Fund; F. Perry Wilson, retired chairman of the board of UCC; and Kathryn D. Wriston, director of various organizations.

Other staff officials visiting were Alex Flamm, senior vice-president; Morse G. Dial Jr., vice-president and secretary; and John A. Stichnoth, vice-president and general counsel.

Additional photographs of the officials' visit may be found on pages 4 and 5.

(Please see Page 8)

Corporate world of Union Carbide...

Union Carbide Corporation will build a 500-million-pounds-per-year low-density polyethylene plant at Taft, La. Warren M. Anderson, president, has announced. Construction of the facility will get under way early next year at a new plant site adjacent to the corporation's existing petrochemical complex at Taft. The plant—based on Union Carbide's new costs-saving Unipol process—is scheduled to go onstream early in 1982.

"The new facility will be far and away the most cost- and energy-efficient low-density polyethylene plant ever built," Anderson said. It will employ Union Carbide's heralded new low-pressure, gas-phase Unipol process which requires only half the capital investment and one-quarter of the energy of current high-pressure processes for low-density polyethylene.

Construction of the new facility is

part of Union Carbide's previously announced plans to add nearly a billion pounds of polyethylene capacity based on its new low-pressure Unipol process by the end of 1982.

85% of United Way goal

With more than two-thirds of the reports in, the United Way is within 93 percent of its goal! The latest computer figures show that a total of \$659,251 has been pledged to the Oak Ridge plants' goal for 1979.

Plant-by-plant breakdown shows the following: ORGDP, \$250,330—101 percent of goal; Y-12 Plant, \$198,079—91 percent of goal; and ORNL \$276,574—88 percent of goal. (The Paducah Plant drive has been postponed until mid-October.)

While the early response certainly looks encouraging, James A. Cox, who is the three-plant chairman, said that the work now really begins in earnest. "The first reports include all the continuous fair-share givers, which gives us a healthy push toward our goal; but the work now begins."

Of the total amount pledged thus far, Anderson County will gain \$348,961 of the United Way money. This will give them a healthy boost toward attaining their goal, Cox believes.

In this issue...

Chuck Ochiltree dons his skates for a fun trip around the loop in Cade's Cove. It was all in fun and all for the Muscular Dystrophy Association. He was joined in his trek by fellow Y-12er Don McAlister. Their amusing story is on page 2.

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Different Drummer

Y-12ers take Cades Cove loop on roller skates

The beautiful valley of Cades Cove had never seen anything like it. Folks on roller skates "doing the loop." The loop is the 11-mile, torturous road through probably the most beautiful country in the land.

Don McAlister and Chuck Ochiltree, Y-12's Electrical Engineering, not only skated through the loop once, but made the return trip after a picnic lunch provided by family and friends. Mike Brown, also in Engineering, made the trip on a bicycle and provided the photographs for the adventurous Y-12ers.

McAlister is a skate-guard at a local rink (he says that entails "keeping herd" on about 400 youngsters on skates!).

Ochiltree started it all as McAlister was relating at work one day the fact that the Skate-A-Thon had netted about \$3,500 for the Muscular Dystrophy Association. An outdoorsman from birth, Ochiltree suggested they try it on skates in the mountains.

Rushing down some of those mountain roads at more than 30 miles per hour gave the pair some apprehension (they were

accompanied by Anna Stokes, the teaching pro at the rink). But no one was hurt, just bushed, the Y-12ers said.

They each carried a long stick to brake the way downhill, and also to help push on the up-hill grades.

Tourists in the mountains gaped at the skaters some and a forest ranger was heard to say, "Now I've seen everything."

After the two-hour trip, the trio dined on food provided by others in the group (Ochiltree was accompanied by his wife, Shelia, and his two children, Leif and Jennifer, on bicycles).

"We saw lots of deer, grazing along in the pastures with the cattle," Ochiltree said. "That valley is something special anyway." (For the outsider, Cades Cove is that section of the Smokies left in its original state with many of the homes, barns and out-buildings still standing, as they were a hundred years ago.)

While the skaters don't recommend the tour for the unskilled roller skater, they all wholeheartedly agree on Cades Cove. "It's away from the crowds, it's peaceful and has an almost unreal beauty," they said.



Ochiltree and McAlister don skates

The energy advisor...

By Merl Baker

Across our country, states and utilities are now gearing up for a major national thrust toward more energy-efficient living.

The DOE-sponsored Residential Conservation Service (RCS) Program, to be implemented next year, is designed to make conservation advice and assistance available throughout the U.S. and to help citizens reduce the increasing burden of large utility bills.

RCS will be available nationally to those occupying single-unit houses or apartments of up to four units.

Its purpose is to encourage all types of cost-effective conservation measures, including the use of solar and wind power, in the homes of residential customers of large electric and gas utilities. (The decision whether to include home heating fuel suppliers will be made in each state.)

Early in 1980, individual states and the Tennessee Valley Authority are to present their plans for implementing the legislation (part of Title II of the National Energy Policy Act of 1978), which potentially could benefit some 65 million households.

Under RCS provisions, utilities are required to offer their customers services that will enable them to save energy, thus not only benefiting the customers but also the national energy-saving effort. The customer will pay for the installation of the measures, but none are to be recommended by utilities unless the costs will be fully recovered from energy savings in seven years or less.

Technical support

ORNL is assisting the Department of Energy in this program by providing technical support to the states in handling engineering and institutional issues. This effort is under the direction of Tony Schaffhauser and Ray Johnson of the Metals and Ceramics Division.

The utilities can make loans and provide contractors for conservation improvements; however, most

utilities will likely provide lists of qualified contractors and lending institutions so that the customers can choose. The recommended measures may also be installed as "do-it-yourself" projects.

If customers have problems in negotiating with contractors and lenders, the utilities are required to assist, and most are expected to provide customers with sample installation contracts and lending agreements.

Energy audits may be free, or a charge may be made, depending on the policy of the state public utility commission. TVA is expected to continue its policy of free audits to customers with electric heating and/or central air conditioning. Audits will normally be provided by those utilities furnishing energy for heating, although those supplying energy for other purposes are also required to provide the service upon customer requests.

Payments spread out

Postinstallation inspections will probably be performed, but on a random basis. However, utilities are required to help dissatisfied customers negotiate with contractors. Local, state and federal consumer protection laws also will benefit customers. The utilities are required to provide monthly installment payment services so that customers may pay for the conservation measures as part of the monthly utility bill.

(Please see Page 8)



Ochiltree rests



McAlister glides along



End of the trail

question box. . .

If you have questions on company policy, write the Editor, **Nuclear Division News** (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

Money-changers

QUESTION: I recently lost the only dollar I had in a changer in Y-12. Could vending services be improved in some way, i.e., better quality of food, faster refunding, better repaired machines, etc.?

ANSWER: We sympathize with your frustration, but recognize that electronic changers are complex and sometimes malfunction. Industrial Vendors maintains refund monies at several locations in Y-12; you may obtain information on these locations from the Cafeteria (4-1595) or from Industrial Vendors (483-3306). The Industrial Vendors route personnel are also authorized to make refunds.

All of the Y-12 Oak Ridge vending machines have been replaced with new, modern equipment which offers a much wider variety of products than previously available. If some item you would like is not in the machines, call your suggestion in to the Food Services Manager of your installation, who will discuss it with the vending company.

Vacation eligibility

QUESTION: A weekly employee who joins the Company in the middle of June becomes eligible for one week of vacation shortly before the end of the year. He/she then finds that the five days must be taken

before the end of the year, and the employee does not receive any more vacation until the hire-in date of the next year. This means that the employee must go a year without any vacation except for the one week which must be taken during the last half of December. Isn't this a needless inconvenience to the employee who makes the mistake of hiring in a couple of weeks too early?

ANSWER: Since this employee would receive one week's vacation in December, after completing six months' service, and then be eligible for two additional weeks of vacation after completing a year's service in the following June, it is difficult for us to follow your line of reasoning.

If the employee had been hired after the first of July, the first week of vacation could not be taken until January of the next year and the second week after completing a year in July. The employee, of course, could wait until after completing one year in July and take both weeks at the same time.

When a salaried employee completes six months' service in the year in which employment starts, an extra week of vacation is earned when compared to the salaried employee who is hired during the second half of a year.

Wayne McLaughlin appointed Employment head at ORGDP



B. Wayne McLaughlin

B. Wayne McLaughlin, formerly of the Wage and Salary Department, has been named supervisor of the Employment Department at ORGDP. He succeeds Phillip E. Parrett, who has transferred to ORNL as supervisor of the Employment Department there.

McLaughlin, a native of Danville, Va., has also worked in the Purchasing Division, Maintenance Engineering and has served as ORGDP Affirmative Action representative. He is a graduate of John C. Smith University.



Phillip E. Parrett

He and his wife, the former Gwen Stafford, live at 134 Athens Road, Oak Ridge.

Parrett joined Union Carbide in 1975, after working with Armstrong Rubber Company and Armor Elevator Corporation. He is a graduate of the University of Tennessee.

Mrs. Parrett is the former Bonnye Davis and the couple lives at 110 Oklahoma Avenue, Oak Ridge. They have two children, Leslie and Drew.

about people. . .



Bogardus

Bruce J. Bogardus, an Engineer in the Operations Division at ORGDP, has been awarded the 1979 Instrument Society of America (ISA) Fellow Award for "his distinguished contributions in the development and applications of instruments and controls in uranium enrichment." ISA is an international professional engineers' organization.

Bogardus has been with Union Carbide since 1946. He has a BS degree in Electrical Engineering from the University of Tennessee.

He will receive his award on October 23 at the ISA banquet in Chicago.

Irma F. Johnson, Auditing Division, was selected member-of-the-year by the Knoxville Chapter of the National Association of Accountants. The award is presented each year to the member contributing the most to the chapter by attendance at technical meetings and sponsorship of new members. The National Association of Accountants is comprised of men and women from a wide variety of occupations who are interested in increasing their knowledge of accounting practices and methods.

Johnson received her bachelor's degree in accounting from the University of Tennessee and is currently working toward her MBA degree at UT. She has been with Union Carbide for the last four years.

She and her husband, Les, live at 510 Orchard Drive, Clinton. They have three children.



Johnson

anniversaries . . .

PADUCAH

25 YEARS

Brad D. Burklow.

20 YEARS

Betty M. Green and Barbara K. Hook.

ORGDP

35 YEARS

Trewhitt Hope, Engineering; Ernes Edwards, Operations; Alvin Hilton, Operations; Harry Blecher, Operations; Kenneth Moore, Maintenance; and James Allen, Maintenance.

25 YEARS

Charles Henley, Benny Houser and Glynn Beck.

ORNL

25 YEARS

Thomas A. Carlson, James H. Mason Jr., Martha D. Eden, John A. Russell Jr. and James D. Wolfenbarger.

Y-12 PLANT

35 YEARS

James W. Fox, Utilities Administration; James R. Mangrum, Special Services; and Thomas R. Webber, General Shops.

30 YEARS

Jewell G. Hayes, Engineering; and Johnson Robinson, Cafeteria.

25 YEARS

Leo L. Brown, Walter R. Hensley, Charles E. Oney, Harlan C. Wright, James T. Roberts, Jesse A. Shell, Thomas J. True Jr., Robert J. Ratledge, Richard V. Anderson, Russell C. Blevins, Walter T. Goodwin, Nonda W. Evans, Joe B. Tallent, Joseph J. Campbell, George L. Day, John J. Henry, Robert S. McGinnis, Jesse H. Thomas, Floyd J. Womack, Ronald M. Hughes, Andrew W. Maxey, Thomas W. Osborne Jr., William F. Henline, Raymond G. Hurst, Charles Pitts Jr., Claude Rittenberry, Archie D. McPeters and George E. Byrd.

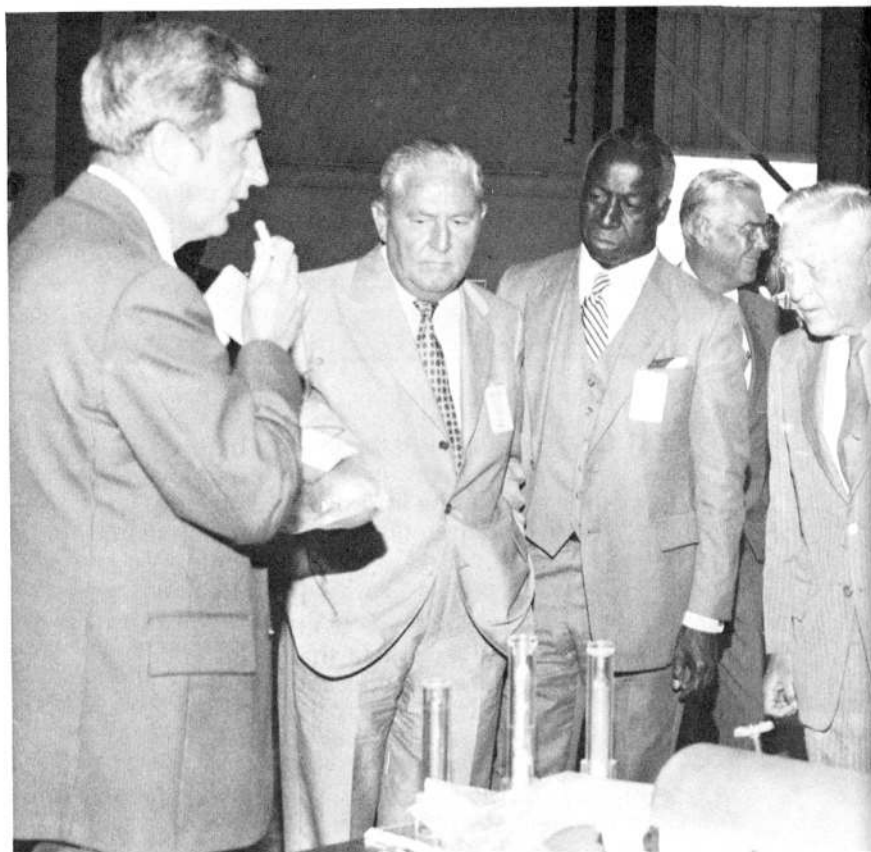
20 YEARS

Joe E. Coleman, Perry G. Hockaday, James F. Vance, Ernest L. Underwood, Keith G. Kahl, Jesse C. Maples, Edwir R. Eastwood, Richard A. Huber, Horace D. Prichard, Eugene J. Roberts, Clyde E. Ryan, Charles A. Young, Chester R. Anderson, Leon T. Cough, Lewis M. Denman, Henry W. Dickenson, Robert M. Geary, James D. Kennedy, Dearl G. Lincoln, Sherrell D. Ownby, Jack W. Powers and Robert E. Rose.

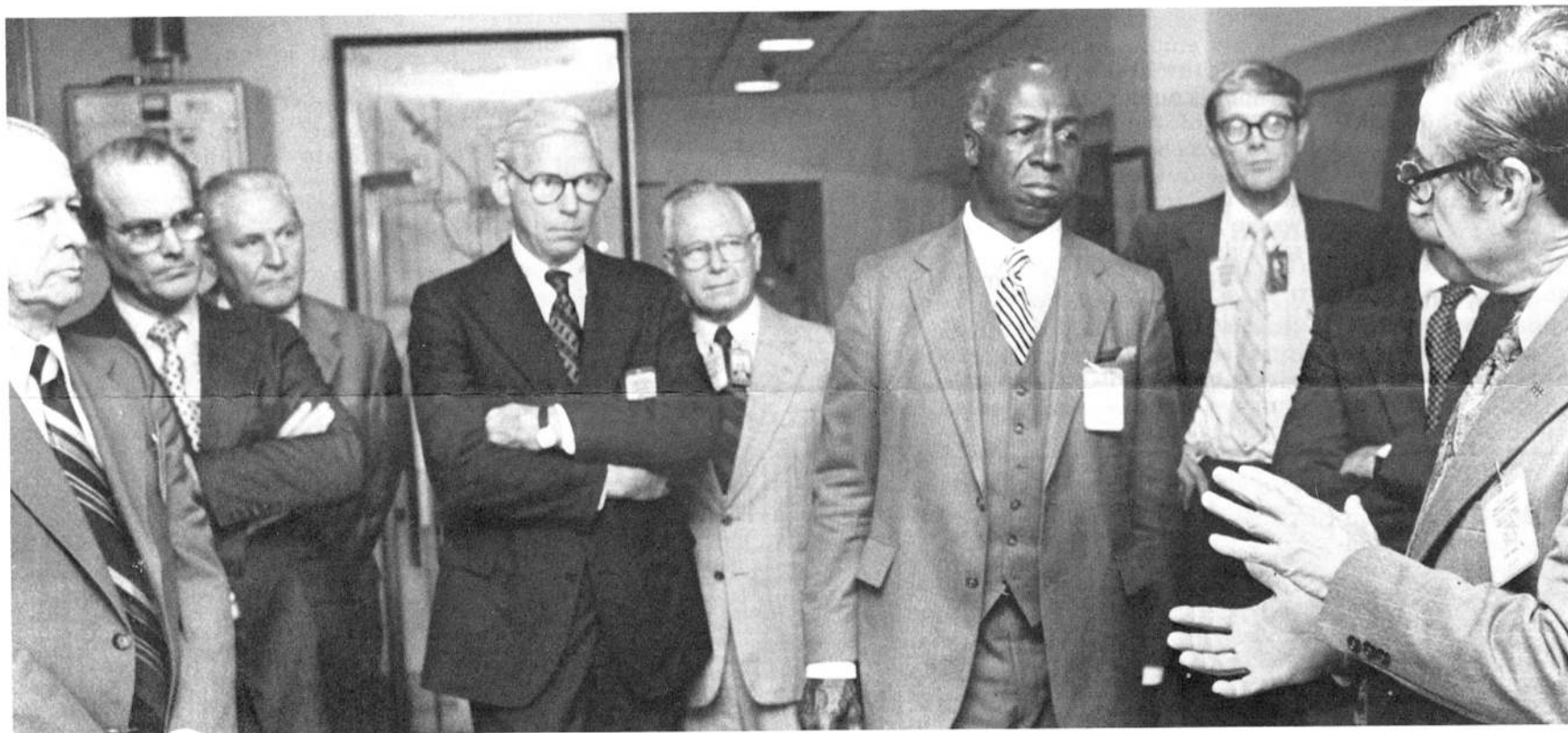
Patents granted

To George R. Peterson, Y-12 Plant, for "Method for Preparing Metallated Filament-Wound Structures."

To Henry Inouye and Chain T. Liu, both of ORNL, for "Ductile Long Range Ordered Alloys with High Critical Ordering Temperature and Wrought Articles Fabricated Therefrom."



Visit toll enrich



Stop by High Flux Isotope Reactor



Flamm and Hibbs



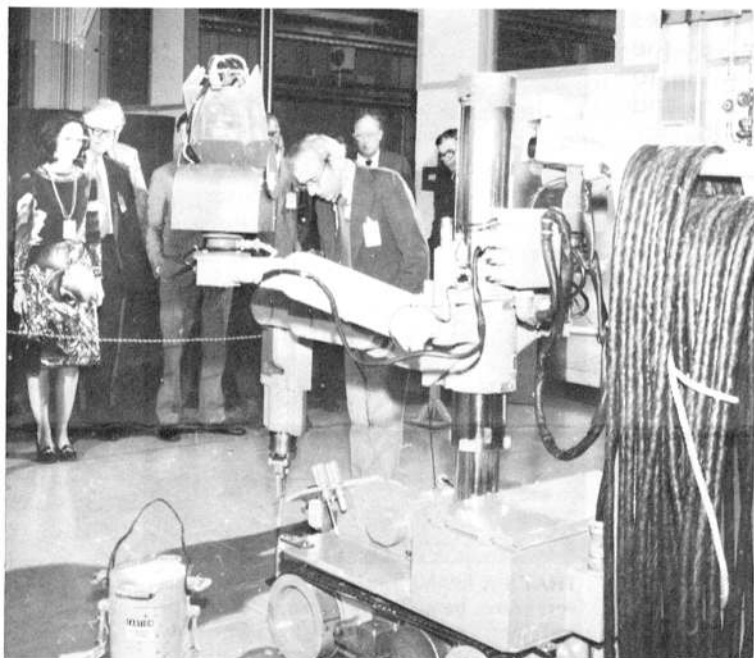
Wilson, Hibbs and Sneath



Dial greeted by Auerbach



ment facilities



'Robot' Herman demonstrated



Hard hats are issued



Another stop at Laboratory

recreationotes. . .

Bowling leagues. . .

Y-12 Classic. . .

The Splinters have a one point lead over the Ridgers, after the second week of bowling. Bob Cantrell fired a 269/306 to take high game, while Sewell Brown has the lead for high handicap series with a 680.

K-25 Tuesday. . .

The All Stars lead the Shifters in their second week of bowling. F. E. Hatmaker won all the weekly prizes rolling a 227/254 game and 589/670 series.

K-25 Wednesday. . .

The K-25 Wednesday Men's league is led this week by the Planners. The Protectors are only three games out. C. A. Carmichael of the Protectors won the weekly prizes with a 260 game and 641 series.

ORNL A. . .

After their second week of bowling, the Zots have a one point lead over the Limits. N. O. Case won the weekly prize for high game scratch with a 227. Gnadt, of the Limits, won the high handicap series with a 651.

ORNL C. . .

The Alley Rads have a four and one-half point lead in the ORNL "C" League. Arthur, of the Remkeys, won the high handicap game of 272. Zamzow, of the Knuckleheads, won high handicap series with a 660.

Family Mixed. . .

Two Plus Two and Pin Busters are tied after the first week of bowling in the Carbide Family Mixed League. The Oops are only one game out of first.

UCC Monday. . .

The Monday Mixed at Western Plaza got off to a good start with some pretty good scores being rolled the first night. To begin with, Charlies Angels, Good Luck 4 and Virgins' Delight all won four games to be tied for first place. Charlies Angels rolled a 679/2006 team game and series to lead in both categories. Rick Igou of the Good Luck 4 also took high game and series for men with a 215/587. Penny Jessen took high game for women with a 178 and Retha Beal took series with a 499.

wanted. . .



ORGDP

VAN POOL RIDERS WANTED - can be picked up at West Town and Rocky Hill in Knoxville. Will arrive at South and West portals, 8:00 to 4:30 shift. Contact W. L. Pattison at 4-6888 or (home) 691-0781.

RIDE or will join car pool from West Knoxville (either Walker Springs or Cedar Bluff area) to Portals 4 or 7, straight days. Jamie Borge, plant phone 4-8896, home (Knoxville) 693-1923.

VAN POOL RIDERS from Papermill Road exit area to any portal, 8:15-4:45 shift. Ray Pearson, plant phone 4-6849, home phone (Knoxville) 588-9949.

RIDE from Ball Road, West Knoxville, to Portal 5, D shift. Contact Jack McKinney plant phone 4-1301 or phone Knoxville 690-1888.

Y-12 PLANT

RIDE from vicinity of Married Students Apartments, Sutherland Avenue, to Biology Portal, straight day. Bill Gerhardt, plant phone 4-0675, home phone Knoxville 588-1198.

CAR POOL MEMBERS from Lincoln Park / Clinton Highway area / Merchants Road, to East Portal, 8 to 4:30. Bill McManus, home phone 546-2470.

ORNL

VAN POOL RIDER from West Knoxville area to any portal, 8-4:30. Mike Caldwell, plant phone 4-4885.

CAR POOL MEMBERS from Kingsgate Subdivision (Concord area) to East or North Portal, 8-4:30. Nancy Wright, plant phone 4-6273, home phone 966-5228.

RIDER FOR VAN POOL from West Knoxville to East, South or West Portal, 8-4:30. Dean Treadway, plant phone 4-6580, home phone 584-4879.

CAR POOL MEMBER from West Town Mall, Knoxville, to either portal, 8:15-4:45. C. C. Travis, plant phone 6-2128, home phone 693-5970.

VAN POOL MEMBERS from Michigan and Georgia Avenues and Woodland area, Oak Ridge, to either portal, 8-4:30. Hugh Binkley, plant phone 4-4239, home phone 483-9545.

Paducah fishing. . .

A. G. Edwards reeled in the biggest catfish, weighing a hefty 22 pounds, during the Paducah Plant's seasonal fishing contest. Capturing second place was Jim Adkins' eight and one-quarter pound catch, followed closely by an eight-pound catfish credited to Charles Spencer. Pam Adkins closed out the honors with a six-pound, two-ounce entry.

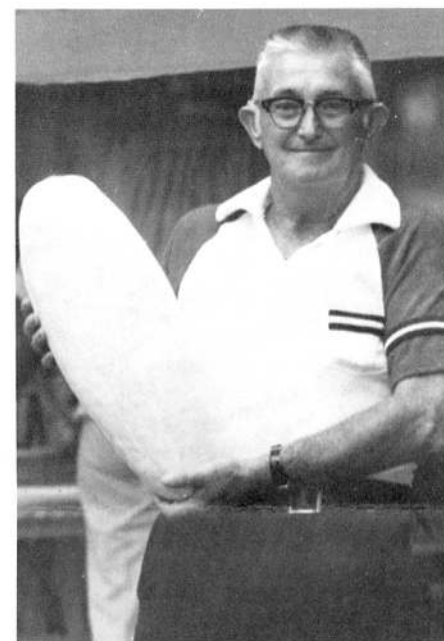


TOURNAMENT CHAMPS—The 49ers took the championship in the Carbon Slow Pitch tournament, downing the Ball Bangers 9 to 3. In the front row, from left, are Tim Butler, Barbara Prewitt, Debra Cook, Harriett Westmoreland, Ivory Douglas, Ron Westmoreland and Wayne McGee. In the back row are John Hall, Junior Collins, Bill Thomas, Ken Hall, Joe Partin, Dave Hall and Leon Garland.

Paducah retirees

The Paducah Plant Retirees Association met recently at the McCracken County Courthouse to plan a trip to see the Barnum and Bailey Circus in Carbondale, Ill. Doc Trenthan and Jesse Knott were in charge of arrangements.

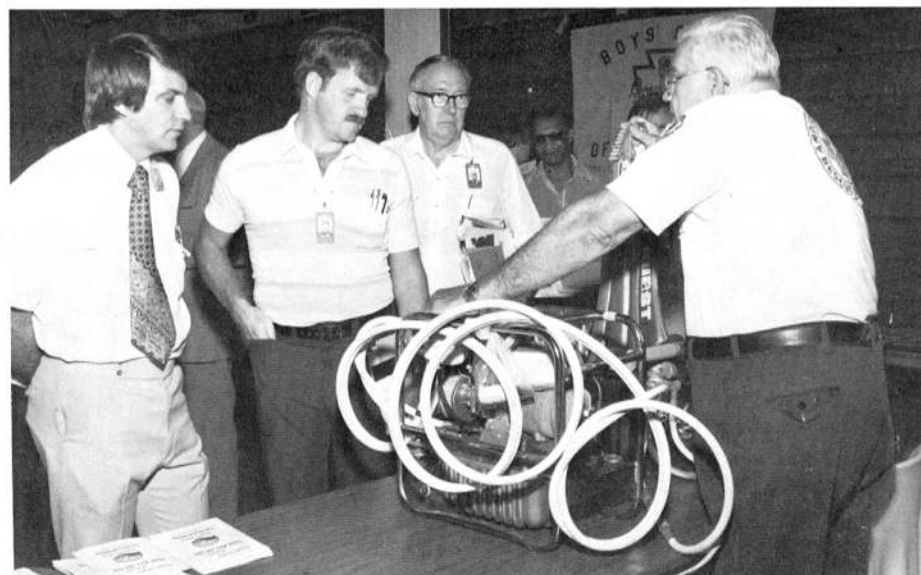
The retirees are staging a dinner at Damron's Smorgasbord in LaCenter, Ky., November 2, at 7 p.m. Their Christmas party is set December 3 at the Jackson Purchase Rural Electric Building.



THAT'S A BEAN?—Bob Ligon brought this very rare bean to the recent Paducah Retirees Association picnic. Six new members were at the late summer affair.

Volleyball. . .

Nuclear Division employees wishing to participate in a women's volleyball league should contact Mr. Golden, Oak Ridge 483-3527. Play will be through October and November and will take place at the Oak Ridge Civic Center.



JAWS OF LIFE—The Anderson County Rescue Squad's "jaws of life" created a lot of attention at the recent kick-off for the United Way. Union Carbide employees get a demonstration from a squad member.

Safety Scoreboard

Time worked without a lost-time accident through September 27:

Y-12 Plant.....	175 Days	5,747,000 Employee-Hours
ORGDP.....	289 Days	9,122,933 Employee-Hours
ORNL.....	3 Days	304,749 Employee-Hours
Paducah.....	126 Days	1,321,000 Employee-Hours

Fire Prevention Week coming

Paducah Plant employees recently received a fire prevention pamphlet and contest puzzle as part of the plant's annual fire prevention campaign being held October 7-13. The national campaign was instituted in 1911 to commemorate the Great Chicago Fire of 1871 which destroyed over 17,000 homes.

The puzzle was designed to emphasize common home fires hazards. Employees are asked to circle the 20 depicted hazards and return the puzzle to the Fire and Guard Department before October 8. All entries will be eligible for a drawing for prizes ranging from \$100 cash to the fire protection articles on display in the plant's Roxy.

The "home fire hazard hunt" was chosen as a means of initiating a close evaluation of every employee's home to find and eliminate any potential fire hazards. "Fire Prevention Is Your Job," the 1979 slogan for Paducah's fire prevention campaign, places the responsibility of preserving homes and families from the hostile element of fire on each member of the family.

Plant-wide inspections will also be carried out during the week along with a film showing entitled "The National Fire Drill." The film recreates actual every-day situations which have led to loss of life and property then challenges the view to determine the correct course of action to minimize the danger.

The plant's 29-member Fire and Guard Department uses comprehensive fire prevention and suppression practices to protect the enormous investment of taxpayers in the Paducah Plant. However, each employee also has an individual responsibility to ensure the continued freedom from fire destruction and injury.

The National Fire Prevention Association suggests the following on-the-job precautions:

Observe “No Smoking” regulations. Be careful with cigarettes and matches in areas where smoking is permitted. Never dump hot ashes into a wastebasket or trash container that holds flammable materials.

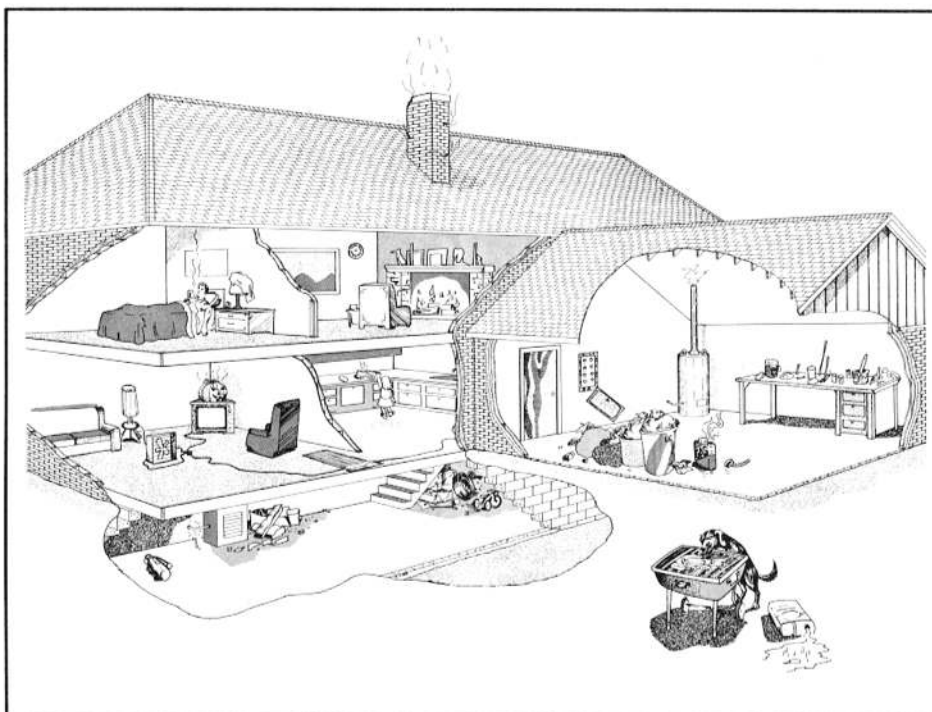
Make sure electric cords and connections are in good condition.

Observe safe storing practices. Never obstruct sprinklers or block fire doors.

Learn when and how to use the fire extinguishers nearest your work area. It's important to choose the right extinguisher to do the job, depending on what type of material is on fire. Know where and how to activate a fire alarm.

Use utmost caution with flammable liquids. Store them in approved safety containers, use them where vapors are safely removed by adequate ventilation, eliminate possible ignition sources, clean up spills without delay, and provide prompt and safe disposal of cloths contaminated with flammable or combustible liquids.

Take special precautions when welding or cutting. Flying sparks and hot metal easily start fires.



PUZZLE FOR PREVENTION—This cutaway is part of the Paducah Plant's Fire Prevention campaign puzzle contest. Employees are asked to circle the 20 depicted home fire hazards and return the puzzle to the Fire and Guard Department before October 8. The puzzle was designed to emphasize common home fire hazards and to initiate the elimination of any potential hazards.

division death. . .



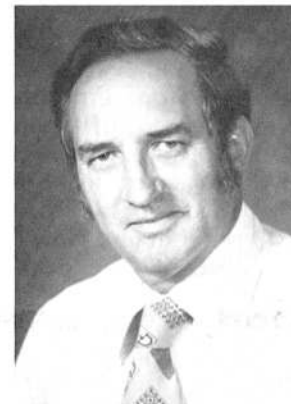
Mr. Yearwood

Emery J. Yearwood, Y-12's Materials Forming Department, died at his Route 1, Heiskell, home September 21. A native of Knoxville, he joined Union Carbide in 1953 after working with Rohm and Haas.

He is survived by his wife, Lucille Yearwood; daughter, Donna Coker; son, Daryl; two granddaughters; his mother, Dealie Yearwood; sisters, Cleo Joseph, Pawnee Cechini; and brother, F. Lynn Yearwood.

Services were held at Mynatt's Chapel, with interment in the Bookwalter Cemetery.

Thomas named
shop supervisor



Thomas

Roy E. Thomas, a sheet metal worker in ORNL's Plant and Equipment Division's Fabrication Department, has been named a shop supervisor. He has been a chemical operator, sheet metal helper and apprentice sheet metal worker.

Thomas, a native of Monroe County, joined Union Carbide's Y-12 Plant in 1954 and transferred to ORNL in 1959.

He and his wife, Joan, live at 1208 Peachtree Street in Sweetwater. They have three sons, Steve, Scott and Barry.

Patent granted. . .

To Seth J. Weatley, ORGDP, for
"Double-Disc Gate Valve."

NUCLEAR DIVISION NEWS

UNION CARBIDE CORPORATION
NUCLEAR DIVISION

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PADUCAH

Darlene Mazzone, Bell 208



PARTNERS IN FIRE PREVENTION—Division representatives from ORGDP meet for plans to observe Fire Prevention Month. Although October 7-13 is nationally recognized as the week, ORGDP will observe the entire month as fire prevention time. From left are Ray B. Gann, A. C. "Tony" Heitzman, William K. Simon, James R. Miller, James D. Bailey, William E. Schimmel, William M. Farmer, John D.

Hoogesteger, chairman; M. S. "Doc" McCarty, Joseph H. Stewart, D. Ray Williams, B. N. "Buzz" Strunk, Harold W. Klin, Fred B. Tredinnick, Thomas B. Bomar, Russ A. Cooper, John F. Preston, Robert L. Payne, Lyle F. Lieber and Bill I. Wyatt.



Medicine Chest

Legionnaires' disease

by T. A. Lincoln, M.D.

QUESTION: "Have you written anything about Legionnaires' disease? I understand it is somehow related to air conditioners."

ANSWER: Since 1965, at least 18 separate outbreaks of Legionnaires' disease have been reported involving 677 patients and 99 deaths. All epidemics occurred in the United States except four. Only five outbreaks are known to have preceded the Philadelphia attack of 1976.

This disease is a spotty, focal bronchopneumonia which eventually progresses to consolidation of a whole lobe or lung. The typical symptoms are malaise, high fever, cough, chills, diarrhea, pulmonary distress and prostration. These symptoms are typical of most pneumonias.

It is now apparent that many people have had extremely mild episodes or inapparent infections. Twenty-five percent of adults tested in New York City have significant antibody titers against these bacteria. Somewhat surprisingly, Philadelphia only has 3 percent and New England about 17 percent. The populations tested have been somewhat selected, and it is too early to say what the average rate is. Regardless, it is quite clear that a fair number of people have had exposure to these bacteria and have had sufficient infection to develop an antibody titer.

The organism, *Legionella hemophilus*, is not highly infectious. It has an attack rate of only 2 percent in exposed persons. Human-to-human spread never has been demonstrated unequivocally. The disease seems to attack people whose respiratory tracts have been compromised by smoking, drinking, pollution or other non-specific factors that interfere with normal bacterial defenses and "housekeeping" functions of the lung.

Diagnosis

The diagnosis of Legionnaires' disease is based on the clinical picture plus the identification of the organism by indirect means. Since the organism is not brought up in the sputum, great difficulties have been encountered in trying to culture it. An immunofluorescent test is quite dependable. Four different serotypes have been identified and specific antisera have been obtained from animals. Serum antibody studies are useful, but since a fair number of people will already have positive antibody levels, it is not a specific diagnostic test unless a high titer can be demonstrated. The disease is often diagnosed when a titer of 1:128 is found. Guinea pigs can be injected with pleural or lung biopsy material. They develop lesions in the spleen where the concentration of the organisms is quite high. Biopsy material can then be inoculated onto an agar media where the

organisms grow slowly and are quickly overgrown by other organisms.

This disease probably occurs only because of environmental influences. The organism appears to multiply to great numbers successfully where there is warm water and an opportunity for dispersal. Cooling towers and air conditioners are such locations. Some cooling towers have a rich algae population in the summer which may support the growth of the *Legionella* bacteria. These bacteria multiply in some air conditioners, and a potentially infectious aerosol may be discharged through the air conditioner's fans and exhaust vents. Thus, we may have created an artificial niche for this rather exotic organism which is normally found only in the soil.

Treatment

The *Legionella* bacteria seem to be quite resistant to usual fungicides and bactericides. Legionnaires' disease can be treated successfully in humans with erythromycin at a dose level of 2 grams daily. On surfaces or in water, chlorine is not a very effective bactericide. There is some evidence that perhaps quaternary amines may be of some value. Pentachlorophenol in the usual concentrations in cooling towers is also probably not bactericidal. By controlling the algae population in the cooling tower, it may be possible to reduce the potential culture media and thereby suppress the growth of the organisms.

Episodes of infections in cities may be related to air conditioning cooling units located on the top of buildings. Sometimes, air intakes are near enough to exhaust vents to allow the aerosol to get into the intake system and be spread throughout a building.

There is no need for special concern. The mechanisms of spread and ways to control this new disease are being aggressively pursued. A satisfactory treatment is available providing an early diagnosis can be made.

Board meeting

(Continued from Page 1)

Most of the officials' spouses accompanied the visitors.

Touring at the Oak Ridge Gaseous Diffusion Plant, board members visited the demonstration cell in K-33 and the Toll Enrichment facilities. At the Y-12 Plant, they visited the Training and Technology Project; saw a demonstration of the mobile manipulator, Herman; and at the Oak Ridge National Laboratory, they visited the Holifield Heavy Ion Research Facility, Environmental Sciences complex and the High Flux Isotope Reactor.

Spouses visited many of the same facilities, and also visited the American Museum of Science and Energy in the afternoon.

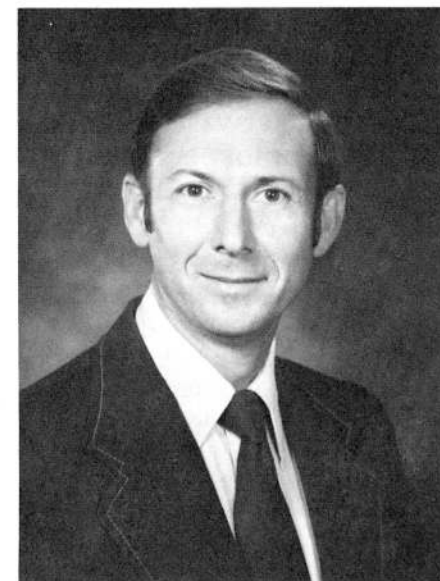
Swanks appointed associate division director at ORNL

Jerry H. Swanks has been appointed associate director of the ORNL Operations Division.

A native of the Oak Ridge area, Swanks will be responsible for the Radioisotopes, Laboratory Facilities, Hot Cells and Solid Waste Departments. He worked as a student employee at ORNL for four summers before becoming a permanent member of the Operations Division in 1965. He has been a development staff member and group leader.

Swanks holds BS, MS and PhD degrees in nuclear engineering from the University of Tennessee and is a member of the American Nuclear Society.

He and his wife, the former Sammie Smith, reside in the Ten Mile community in Meigs County. They have two sons, Jonathan and Kevin.



Jerry H. Swanks

The Energy Advisor...

(Continued from page 2)

How much can consumers expect to save by installing these measures? Estimates vary, because some homes are already adequately weatherized for conservation. But it is expected to reduce the energy needed for a poorly weatherized house by one-half or more. The average energy reduction per house is estimated at one-third, a very significant impact.

Grants available

Low-income households may be eligible for grants from local, state or federal agencies. Grants are not included in the RCS program; however, the "arranging service" that the utilities must provide requires them to help low-income customers obtain grants available under other programs.

RCS also is expected to have a significant impact on national energy

consumption because the residential sector accounts for some 20 percent of U.S. energy use (or approximately 15 quads). The breakdown of residential consumption is:

Space heating	53%
Water heating	13%
Lighting	4%
Cooling	9%
Appliances	21%
Total	100%

In most parts of the country, energy-conscious consumers should be especially interested in measures to reduce the energy required for space and water heating, including selection of the most energy-efficient appliances.

TVA's pioneering efforts along this line in our own area have provided many of us with a running start toward achieving the residential energy savings that now are the goal of RCS on a national basis.

Next year's utility program announcement will provide a new opportunity for all customers to take advantage of these services. With the rising cost of energy, they should be your best long-range investment!

Next issue...

The next issue will be dated October 18. The deadline is October 10.



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